1. OBJECTIVES

Today we are going to apply the tools we learned in Chapter 16 of the book (Aggregate Supply/Aggregate Demand Model). We are going to see how the economy reacts to several type of shocks with a particular emphasis in how the adjustment from the SR to the Medium Run (MR) works.

2. SOME TERMINOLOGY

What is called Long Run in the book corresponds to Prof. Christiano’s Medium Run (MR).

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<table>
<thead>
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<tbody>
<tr>
<td>SR</td>
<td>MR</td>
<td>LR</td>
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<tr>
<td>1-2 years</td>
<td>3-5 years</td>
<td>10-20 years</td>
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3. REVIEW OF THE BASIC ADJUSTMENT MECHANISM

Output tends to return over time to its natural level.

Because the expected price level has such a strong effect on the actual price level in the aggregate supply relation, the dynamics of output and prices depend very much on how wage setters form their expectations.

Assumption: \( P^e_t = P_{t-1} \)

\[
\begin{align*}
\text{AS:} & \quad P_t = P_{t-1}(1+\mu)F(1-\frac{Y_t}{L}, z) \\
\text{AD:} & \quad Y_t = Y \left( \frac{M}{P_t}, G, T \right)
\end{align*}
\]

Position of AS depends on last year’s price level.
Adjustment Mechanism:

The mechanism: As long as the economy is operating above its natural level, prices are increasing.

In the SR, output can be above or below its natural level. In the LR, however, output eventually returns to its natural level. The adjustment process works through prices.

4. A DECREASE IN TAXES

T↓ (shifts AS and IS curves)
CONCLUSIONS:

Medium Run effects:

- No effects on the level of output;
- Increase in the interest rate;
- Increase in the price level;
- Composition of output altered:

\[ Y_n = C(Y_n - T) + I(Y_n, i) + G \]

What happened is that \( \Delta C = -\Delta I \), Consumption increased but full crowding out of I.

Compare to a Monetary Expansion (The composition of output in the new equilibrium is the same as before the disturbance, and the monetary expansion turns out to be neutral in its LR and MR effects on real variables).

5. UNEMPLOYMENT BENEFITS INCREASE PERMANENTLY

Our variable \( z \) increases.
The onus of being unemployed is lessened and this increases the bargaining power of workers.
CONCLUSIONS:

Medium Run effects:

• Important effects on the level of output (it is now smaller);
• Unemployment rate increased;
• Same real wage;
• Increase in the interest rate;
• Increase in the price level;
• Output altered:

\[ Y_n = C(Y_n - T) + I(Y_n, i) + G \]

\[ \Delta Y_n = \Delta C + \Delta I < 0 \]

6. THE ‘OIL SHOCK’

Can be seen as an \( \uparrow \) in \( \mu \).

Firms produce goods with labor and other inputs (e.g. oil). When the price of oil increases, we know that:
• The firms’ non-labor costs increase;
• given wages, firms respond by increasing prices;
• this increase in \( P \) represents an increase in \( \mu \).
CONCLUSIONS:

Medium Run effects:

- Important effects on the level of output (it is now smaller);
- Unemployment rate increased;
- Lower real wage;
- Increase in the interest rate;
- Increase in the price level;
- Output altered:

\[ Y_n = C(Y_n-T) + I(Y_n, i) + G \]

\[ \Delta Y_n = \Delta C + \Delta I < 0 \]
7. A DECREASE IN CONSUMERS’ CONFIDENCE (OR IN CONSUMERS’ SAVING HABITS)

CONCLUSIONS:
Medium Run effects:

- No effects on the level of output;
- Decrease in the interest rate;
- Decrease in the price level;
- Composition of output altered:

\[ Y_n = C(Y_n - T, c_0) + I(Y_n, i) + G \]

What happened is that \( \Delta C = -\Delta I \), consumption decrease but fully compensated by exact same increase in I. 
Mention paradox of saving (Distinguish between MR and LR).

8. MAIN FACTS

- Dynamics of adjustment arise from changes in expectations. In this chapter, these take the form of agents continually adjusting to past price-level changes.
- The economy’s MR equilibrium is a short run equilibrium for which \( P = P^e \).
• The transition from SR to MR in this chapter is driven by catch-up wage increases (inducing price increases) in the labor market.